

APPENDIX B

CRITICAL OUTCOMES, OBJECTIVES AND PERFORMANCE MEASURES

BROOKHAVEN NATIONAL LABORATORY

1 April 1999

Table of Contents

Introduction	3
Critical Outcomes, Objectives and Performance Measures	4
Self-Evaluation and Improvement Agenda	5
Schedule	6
Scoring	7
FY99 Weighting	8
Off-Ramp	10
Change Control	10
Performance Measure Development	10
Attachment 1	Critical Outcomes, Objectives and Performance Measure Detail
Attachment 2	Excellence Indicators for ES&H Off-Ramp
Attachment 2A	Environmental Index – Baseline

Performance Evaluation System

Introduction

This Contract Appendix sets forth the performance evaluation system (including processes, criteria, schedules, and measures) that will be used to evaluate the overall performance of Brookhaven Science Associates (BSA) in the management and operation of Brookhaven National Laboratory (BNL) in FY99, as required by Articles 6, 7, and 12A of the Contract. The evaluation procedure described below details the Critical Outcomes, Objectives, and Performance Measures that will be used to track and measure Laboratory performance in several critical areas, and to influence the improvement agenda of the Laboratory in those areas.

For the period of Fiscal Year 1999, in accordance with Article 6 of the Contract, the Parties have agreed to use a Performance-Based Management System (PBMS) which includes clear and reasonable Objectives, against which BSA's overall performance will be evaluated. For this purpose, the parties have agreed to an objective hierarchy consisting of Critical Outcomes, underlying Objectives, and associated Performance Measures with predetermined weights and metrics for the assessment of BSA's performance. This so-called "critical outcome process" is designed to drive the improvement agenda of the Laboratory by linking Laboratory rewards, e.g., performance ratings and fees, to a prioritized set of improvement objectives that have been mutually developed by DOE and BSA. DOE and BSA have mutually agreed to the specific Critical Outcomes, Objectives, and Performance Measures contained herein and, as described in Articles 6 and 7, agree to a reassessment of the process, prior to the beginning of each evaluation period.

In a July 13, 1998 memorandum, the Director of the DOE Office of Science (SC) identified high-level expectations in six critical areas that SC would use to guide its regular assessment of laboratory performance. These critical areas are Science, Leadership, ES&H, Infrastructure, Business Operations, and Stakeholder Relations. In this memorandum it was noted that SC expects SC/HQ program managers, field offices, and laboratories to work in partnership to develop laboratory-specific outcomes, objectives, and measures which support these high-level expectations and to use self-assessment as a tool to ensure desired outcomes and achieve continuous improvement.

The Critical Outcomes discussed below were developed using this guidance and site-specific needs for improvement at BNL. In the critical area of Science, one Critical Outcome entitled "Basic Science and Technology" was established. This Outcome addresses the performance of outstanding science and leading edge technologies that are critical to SC's mission and the Nation, and the design, construction, and operation of world-class user facilities that are the distinctive signature of BNL.

The critical areas of ES&H, Business Operations, and Leadership have been captured in a Critical Outcome entitled "Operational Excellence" with specific Objectives and Performance Measures addressing each of these areas. The critical area of Stakeholder Relations is captured in a Critical Outcome entitled "Communications and Trust," and a final Critical Outcome

entitled “Environmental Stewardship” has been established to address critical areas for DOE/EM relating to environmental restoration and waste management. The critical area of Infrastructure is addressed in the Laboratory’s Self-Assessment program the results of which are available to DOE and will be evaluated in the Laboratory’s Annual Self-Evaluation Report.

Collectively, these Critical Outcomes, Objectives, and Performance Measures constitute the major elements of the BNL Management Plan.

Critical Outcomes, Objectives, and Performance Measures

To ensure the short and long-term ability of Brookhaven National Laboratory to meet DOE missions and expectations, BSA, in partnership with DOE-HQ, BHG, and CH, developed four Critical Outcomes for BNL in the next 3 to 5 years. These Critical Outcomes are those end-state results having the highest level of strategic impact and value to DOE. They are established by understanding the customer’s strategic needs.

Flowing from these four Critical Outcomes are 15 underlying Objectives that constitute necessary and sufficient milestone accomplishments for achieving the Critical Outcomes they support. They are sustainable targets over a 1-3 year timeframe and form a complete, non-redundant set of results for evaluating progress toward achievement of the Critical Outcomes.

Performance Measures are a clear, unambiguous set of conditions that, by definition and mutual agreement, determine the extent to which an Objective is achieved. As with the Critical Outcomes and Objectives, Performance Measures form a complete, non-redundant set of achievements to ensure adequate coverage and balanced priorities for a given Objective. Performance Measures are specific to the performance period, i.e., the fiscal year, and require the development of metrics to facilitate adjectival ratings. For FY99, 28 Performance Measures¹ were developed in partnership with DOE using the guidelines discussed on page 10 of this document.

It is equally important to emphasize that the Critical Outcome process must be flexible to accommodate changes as planned improvements are realized and/or customer priorities vary. For example, even though the Critical Outcomes and Objectives are designed as sustainable targets over a 3-5 year and 2-3 year time frame respectively, their relative weights are expected to change more frequently.

At the Objective level, a similar situation exists. In particular, the FY99 priorities reflect an emphasis on infrastructure development; i.e., management systems, work control programs, and other such systems; and much less emphasis on operational results. This is because the noted infrastructure developments are precursors to achieving the desired improvements in operational performance. Following this development and implementation phase in FY99 and FY00, the Objective priorities will undergo a systematic shift to focus on operational results. Reprioritization of the Critical Outcomes, Objectives, and Performance Measures are a fundamental part of the annual Critical Outcome process.

¹ Performance Measures are not provided for the Critical Outcome on Science and Technology.

In addition, there may be a need to change some Performance Measures (or metrics), and perhaps the relative weights of the corresponding Objectives, within the fiscal year as DOE priorities shift and/or new information is acquired. This will be accomplished under formal change control within the Laboratory and subject to approval by the DOE Contracting Officer.

Within the Laboratory, each Critical Outcome, Objective, and Performance Measure has a designated champion who is expected and empowered to ensure success of the desired result. Laboratory Senior Managers (Level 1 and above) are the designated champions for the Critical Outcomes and Objectives while these and lower level managers are the designated champions for the Performance Measures.

The Laboratory's Critical Outcomes for Fiscal Year 1999 are:

1. Basic Science and Technology - BNL will deliver innovative, forefront science and technology aligned with DOE strategic goals in a safe, environmentally sound, and efficient manner, and will conceive, design, construct and operate world-class user facilities.
2. Communications and Trust - BNL will be recognized as a community asset, a good neighbor, and a valued employer.
3. Operational Excellence - BNL will conduct all work and manage its facilities with distinction, fully integrated with and supportive of the science, technology, and clean-up missions, while being fully protective of workers, users, the public, and the environment.
4. Environmental Stewardship - BNL will be an exemplary environmental steward through safe and aggressive environmental clean-up, efficient waste management, and effective communication of the environmental health of the Laboratory.

Annual Self-Evaluation² and Improvement Agenda

Two very important steps in the Performance-Based Management System are Annual Self-Evaluation and Process Improvement. On an annual basis, the Laboratory will self-evaluate its performance relative to each Critical Outcome, Objective, and Performance Measure using the metrics and weights identified in this document. This will be part of a broader Annual Self-Evaluation that is prepared from a roll-up of critical issues from the Department and Division Self-Evaluations and will become the Laboratory's "Annual Report to DOE".

Process improvement at BNL involves two levels, Department/Division and Laboratory-wide. The Laboratory's Annual Self-Evaluation process will be the primary mechanism to identify and prioritize Laboratory-wide improvement initiatives, and to modify accordingly, the Critical Outcomes, Objectives, and/or Performance Measures for the next performance period. In contrast, the Laboratory's Self-Assessment programs will identify and prioritize improvement actions at Department/Division or Directorate levels. This is the level at which organizational

² The Laboratory's Integrated Assessment Program consists of four parts: Corporate Assessment, Self-Assessment, Independent Oversight, and Internal Audit (Peer review is a fundamental element of Self-Assessment). The annual roll-up of individual self-assessments results in an Annual Self-Evaluation, the report of which is transmitted to DOE in the "Annual Report to DOE."

specific requirements, e.g., Balance Score Card and in the areas of Property and Procurement, are addressed.

Schedule

In order to meet customer and stakeholder expectations, as well as clearly define the path forward process, the following schedule is presented. Note: Department/Division Self-Assessments are on-going throughout the performance period.

<u>DATE</u>	<u>ELEMENT</u>
01/05/99	FY98 Self-Evaluation report due to DOE Brookhaven Group Manager.
03/09/99	BNL/DOE Management retreat to assess customer strategic needs and revise Critical Outcomes, as necessary.
03/15/99	Begin development process for FY00 Critical Outcomes, Objectives, and Performance Measures.
04/01/99	Preparation of mid-year status begins.
04/15/99	DOE final Evaluation report to Contractor.
04/30/99	DOE performs mid-year status review.
05/01/99	FY00 Critical Outcomes and Objectives prioritized and approved by BNL and DOE-BHG.
06/15/99	FY00 Performance Measures prioritized and approved by BNL and DOE-BHG.
06/30/99	Final FY00 Critical Outcomes, Objectives, and Performance Measures submitted to DOE-Chicago.
07/31/99	Final FY00 Critical Outcomes, Objectives and Performance Measures to DOE-HQ.
09/01/99	Contractor initiates FY99 Annual Self-Evaluation process.
09/30/99	Evaluation period ends.
09/30/99	Incorporate FY00 Critical Outcomes into Contract.
10/15/99	Compilation of metrics data is completed.

10/15/99	Contractor management reviews Annual Self-Evaluation report.
10/30/99	Contractor submits FY99 Annual Self-Evaluation report to DOE Brookhaven Group Manager.
11/15/99	DOE develops draft summary report and transmits to Contractor.
12/01/99	Contractor submits comments on draft report.
12/15/99	DOE transmits final Evaluation report to contractor.

Note: The above schedule is optimistic for the first year in which the Critical Outcome process will be formally used under this contract. Nevertheless, it is critical to complete the FY99 performance evaluation sufficiently early to guide the final development of FY00 Performance Measures. The Contractor and DOE will make a concerted effort to meet this schedule and accelerate it in subsequent years.

Scoring

Each of the Performance Measures has an associated metric accompanied by a scale that translates the level of performance to an adjectival rating. Unless otherwise specified for a given measure, the scoring methodology for the assessment process is based upon the following adjectival ratings:

- Outstanding - Significantly exceeds the standards of performance, achieves noteworthy results, accomplishes very difficult tasks in a timely manner.
- Excellent - Exceeds expectations and standards of performance, accomplishes difficult tasks in a timely manner, and minor deficiencies are more than offset by better performance in other areas.
- Good - Meets expectations and standards of performance, actions are carried out in an efficient and timely manner, deficiencies do not affect overall performance.
- Marginal - Below the standards of performance, deficiencies cause serious delays and re-scheduling, schedules are adversely affected.
- Unsatisfactory - Well below standards of performance, deficiencies cause serious delays and re-scheduling, corrective action requires high-level management attention.

Scoring of the individual Performance Measures is based on the following point scheme:

Outstanding	4
Excellent	3
Good	2
Marginal	1
Unsatisfactory	0

For example, in any given Performance Measure, if the adjectival rating is "Excellent," a score of 3 is given to the measure. An Objective score can then be computed by multiplying the weight of each Performance Measure in that Objective by its score. These are added together to develop an overall score for each Objective which is then translated into an adjectival rating. The process is continued for the Critical Outcomes by multiplying the scores for each Objective within a given Critical Outcome by its corresponding weight, adding the resulting numbers to get a Critical Outcome score, and converting this score to an adjectival rating as done for the Objective level. The same process is then used to calculate an overall score, and then the adjectival rating, at the Laboratory level.

The following list provides that scoring range for the Objective, Critical Outcome, and Laboratory levels.

OUTSTANDING	>3.5 to 4.0
EXCELLENT	>2.5 to 3.5
GOOD	>1.5 to 2.5
MARGINAL	>0.5 to 1.5
UNSATISFACTORY	≤ 0 to 0.5

FY99 Weighting

The following list provides the weighting of each Critical Outcome, Objective, and Performance Measure for FY99. These weights were developed in partnership with DOE and were designed to achieve an appropriate balance between mission priorities and improvement needs. Relative importance of a Critical Outcome, Objective, or Performance Measure is indicated by a higher relative weight.

- 1.0 Excellence in Science & Technology**
60%
 - Objective 1.1 Research Quality 40%
 - Objective 1.2 Relevance to DOE Missions 10%
 - Objective 1.3 Constructing & Operating Res. Facilities 40%
 - Objective 1.4 Research Program Management 10%
- 2.0 Communications and Trust**
10%

- Objective 2.1 Responsiveness	35%
Measure 2.1.1 Strategic Communications	70%
Measure 2.1.2 National Recognition	10%
Measure 2.1.3 Stakeholder Inquiry Management Systems	20%
- Objective 2.2 Stakeholder Involvement	40%
Measure 2.2.1 Community Involvement Process	60%
Measure 2.2.2 Community Advisory Council	40%
- Objective 2.3 Understanding	15%
Measure 2.3.1 Envoy Program	40%
Measure 2.3.2 Speakers Program	30%
Measure 2.3.3 Ambassadors Program	30%
- Objective 2.4 Community Asset	10%
Measure 2.4.1 On-Site Visitor Programs	100%
• 3.0 Operational Excellence	15%
- Objective 3.1 ES&H Performance	20%
Measure 3.1.1 Occupational Safety Composite	40%
Measure 3.1.2 Environmental Composite	40%
Measure 3.1.3 Radiological Composite	20%
- Objective 3.2 Management Systems	70%
Measure 3.2.1 SBMS Infrastructure	20%
Measure 3.2.2 SBMS Documents for SBMS	20%
Measure 3.2.3 Training and Qualification	10%
Measure 3.2.4 Integrated Assessment	10%
Measure 3.2.5 Re-engineer RAD Protection Program	40%
- Objective 3.3 Quality Managers & Leaders	10%
Measure 3.3.1 Personnel	60%
Measure 3.3.2 Quality of Worklife	40%
• 4.0 Environmental Stewardship	15%
- Objective 4.1 Waste Management & Control	30%
Measure 4.1.1 Eliminate Stockpiles	60%
Measure 4.1.2 Waste Minimization	25%
Measure 4.1.3 Legacy Waste Management	15%
- Objective 4.2 Environmental Protection	20%
Measure 4.2.1 Groundwater Protection	70%
Measure 4.2.2 Wildlife, Data, and SER	30%
- Objective 4.3 Remediation Management	30%
Measure 4.3.1 Cost Savings	35%
Measure 4.3.2 Schedule Adherence	30%
Measure 4.3.3 Records of Decision Signed	35%

- Objective 4.4 BGRR
Measure 4.4.1 BGRR

20%
100%

Off-Ramp

Article 12A of the Contract requires BSA to meet a DOE test-of-excellence by the end of FY2000. Specific criteria for this test-of-excellence will be determined by DOE for fiscal years 1999 and 2000 using the following provisions of the Contract: Article 4(f), "Commitments," Article 12A, "Off-Ramp," and Appendix B.

BNL and DOE believe the Critical Outcomes, Objectives and Performance Measures contained herein provide the necessary and sufficient driving forces for the Laboratory to meet or surpass the Off-Ramp requirements of DOE.

Change Control

Both DOE and BSA acknowledge that implementation of this performance-based contract will require both parties to continually refine selected Performance Measures, develop appropriate metrics, implement data collection and reporting mechanisms, and establish benchmarks against which to set targets for performance improvement and/or measurement. It is also recognized that a continuing effort is needed to refine the system for scoring performance in each of the Critical Outcomes included in this Appendix and for integrating these scores into an overall evaluation rating for each performance period. Therefore, a change-control process will be used by DOE and BNL to manage the content of this contractual document.

Performance Measure Development

The following concepts were used in the development of the Performance Measures and are provided for information and clarification in the process.

1. Like Critical Outcomes and their underlying Objectives, Performance Measures should influence the improvement agenda of the Laboratory. They should incorporate best practices and reflect the DOE and BNL functional manager's judgment as to the key performance elements for overall successful operations. Best practices should include cost/risk/benefit effectiveness. Examples of key elements addressed are:
 - Quality of product
 - Timely delivery
 - Cost reduction
 - Cycle time reduction
 - User friendliness
 - Meet DOE requirements
2. Performance Measures should be results-oriented and should include criteria which are objectively measurable and allow for meaningful trend and rate of change analysis where

possible, and use qualitative criteria in those cases where objective criteria will not produce meaningful evaluation results.

3. Measures may reference industry business standards that are meaningful, appropriate and consistent with DOE requirements rather than arbitrary standards. To this end, benchmarking initiatives are encouraged. Setting benchmarks and targets should consider whether it is cost-effective to make further improvements or if the target level should be raised.
4. The relative weighting and metric for each Performance Measure shall be established prior to the start of the performance measurement period by mutual agreement of the Contractor and the DOE Contracting Officer. If the parties cannot reach agreement, the Contracting Officer shall have the right to establish such weights, subject to the provisions outlined in Article 7 of the Prime Contract.
5. Management approach, assumptions (including definitions), and performance rating levels shall be documented as appropriate.
6. Measures are to be developed in a team approach involving Brookhaven Group personnel with Laboratory functional managers. Care should be taken to ensure that Laboratory functional managers are accountable for the resulting measures, reflecting their status as those responsible for performance and improvement.
7. Not including a Performance Measure does not diminish the need to comply with contractual requirements in that area of performance. Failure to comply with a significant contractual requirement may result in the Contracting Officer overriding the performance measures.
8. The Director of the Office of Science (SC-1) has the primary responsibility for evaluating Science and Technology performance (Critical Outcome 1), but practical input also will be sought from cognizant DOE Assistant Secretaries, Office Directors, and Program Managers. The Contracting Officer has the primary responsibility for evaluating performance relative to Critical Outcomes 2, 3, and 4 in accordance with the objectives, measures, and metrics of Attachment 1 to this Appendix B. However, the Contracting Officer shall inform SC-1 of any issues or concerns that should be considered when evaluating the Contractor's performance in Critical Outcome 1. This is especially important in those areas where operational performance could have a significant impact on the Contractor's ability to conduct successful research for the Department. The Contractor has responsibility to compile the data necessary to document its performance against all measures.

CRITICAL OUTCOMES, OBJECTIVES & PERFORMANCE MEASURES

Critical Outcome 1: Basic Science & Technology

BNL WILL DELIVER INNOVATIVE, FOREFRONT SCIENCE AND TECHNOLOGY ALIGNED WITH DOE STRATEGIC GOALS IN A SAFE, ENVIRONMENTALLY SOUND, AND EFFICIENT MANNER AND WILL CONCEIVE, DESIGN, CONSTRUCT, AND OPERATE WORLD-CLASS USER FACILITIES.

The weight of this Outcome is 60% of total.

Cognizant DOE Assistant Secretaries and Office Directors have primary responsibility for evaluating the performance of Laboratory Science and Technology programs. In carrying out this responsibility, the Assistant Secretaries and Office Directors are likely to request assistance from the Program Managers under whose jurisdiction the various individual Laboratory programs fall.

In performing this evaluation, the Assistant Secretaries and Office Directors have available input from the following sources:

1. DOE Program Managers who carry out periodic reviews of the programs they fund. These reviews usually include use of independent technical experts. The Program Managers may use written reviews as a basis for evaluating the quality of the science and technology performed by the Laboratory and its relevance to their programmatic goals.
2. The Science and Technology Advisory Committee of the BSA Board which oversees the internal reviews of science and technical programs at Brookhaven. Independent review committees whose membership is drawn from the external scientific and engineering communities review each major Laboratory program on an 18-month cycle. The committees evaluate Laboratory divisions and programs with respect to the quality and performance of the staff, the quality and timeliness of the work, and the relevance of the programs to the goals of the Laboratory and sponsoring agencies. Reviews include consideration of the Performance Measures described below. The Committees' written reports and the Laboratory's responses are made available to the BSA Board for Brookhaven, DOE Contracting Officers, and to relevant DOE Program Managers.
3. In addition, input from Advisory Committees reporting to the cognizant DOE Assistant Secretary or Office Director that are appointed formally through the Federal Advisory Committee Act, from reviews of relevant Laboratory activities requested for the Secretary of Energy, or from cognizant Assistant Secretaries and Office Directors may be used.
4. Department Self-Assessments, which include Independent Peer Review and Department and Lab-level Annual Self-Evaluations.

Objectives and Performance Measures:

1.1 Quality of Research

The weight of this Measure is 40%.

Reviewers will evaluate the overall quality of the research performed. Depending on the nature of the program, reviewers will consider the following:

Science: Success in producing original, creative scientific output that advances fundamental science and opens important new areas of inquiry; success in achieving sustained progress and impact on the field, and recognition from the scientific community, including awards, peer-reviewed publications, citations, and invited talks.

Technology: Whether there is a solid technical base for the work, the intrinsic technical novelty of the research, the importance of technical contributions made to the scientific and engineering knowledge base underpinning the technology program, and recognition from the technical community.

1.2 Relevance to DOE Missions and National Needs

The weight of this Measure is 10%.

Reviewers will consider whether the research fits within and advances the missions of DOE; contributes to U. S. leadership in the international scientific and technical communities; contributes to the goals and objectives of the Strategic plans of DOE and other national programs; and the extent of productive interaction with other Science and Technology programs. Depending on the nature of the program, reviewers will consider the following:

Science: The program's track record of success in making scientific discoveries of technological importance to DOE missions and U.S. industry, the degree of industrial interest in follow-on development of current research results, and the effective use of national research facilities that serve the needs of a wide variety of scientific users from industry, academia, and government laboratories.

Technology: The value of successfully developing pre-commercial technology to DOE, other federal agencies, and the national economy, the program's risks and costs, and where appropriate, the degree of industrial interest, participation, and support.

1.3 Success in Constructing and Operating Research Facilities

The weight of this Measure is 40%.

Reviewers will consider whether the construction and commissioning of new facilities is on-time and within budget, whether facility performance specifications and objectives are achieved, the reliability and safety of operations, adherence to planned schedules, and the cost-effectiveness of maintenance and facility improvements.

Reviewers will also assess the quality, innovation and achievements in designing and developing new facilities that will provide the next generation of research tools.

Reviewers of user facilities will also consider whether the user access program is effective, efficient, and user-friendly, the quality of the proposal evaluation process, the strength and diversity of user participation, the productivity of the research supported, both in science and technology, and the level of satisfaction among user groups.

1.4 Effectiveness and Efficiency of Research Program Management

The weight of this Measure is 10%.

Reviewers will consider the quality of research plans; whether technical risks are adequately considered; whether use of personnel, facilities, and equipment is optimized; success in meeting budget projections and milestones; the effectiveness of decision-making in managing and redirecting projects; success in identifying and in avoiding or overcoming technical problems; the effectiveness with which technical results are communicated to maximize the value of the research results and to gain appropriate recognition for DOE and the Laboratory; effectiveness in developing, managing, and transferring to industry intellectual property and technical know-how associated with research discoveries; and the degree to which customer and stakeholder expectations are consistently met.

Critical Outcome 2: Communications and Trust

BNL WILL BE RECOGNIZED AS A COMMUNITY ASSET, A GOOD NEIGHBOR, AND A VALUED EMPLOYER.

The weight of this Outcome is 10% of total.

Objectives and Performance Measures:

The following metric applies to all Performance Measures in this Critical Outcome:

BNL and BHG will conduct a peer review process to evaluate all of the activities enumerated under each of the Objectives and Performance Measures contributing to this Critical Outcome. This peer-review will engage qualified, experienced, outside experts who will evaluate programs on an annual basis using Baldrige Criteria, Integrated Safety Management Principles, as applicable, and other relevant criteria appropriate to their state of development. Consistent with DOE expectations, a Baldrige scoring system will be used. The primary focus of this evaluation will be on evaluating program improvement. Following the peer-review, DOE-BHG will evaluate Laboratory performance relative to the Performance Measures below based on the information generated.

Consistent with the contract Scope of Work and Off-Ramp provisions the Peer-Review will examine the following key overall questions with respect to the BNL Programs:

- Is there evidence of organizational and cultural change regarding community involvement, i.e. development and implementation of a strong, integrated and proactive community involvement/communications program?
- Is there evidence of the community's increased understanding and respect for the Laboratory's missions and its contribution to science and technology? Are there evaluations that support the success of the community involvement initiatives?
- Are their indications that the community is satisfied that their substantive concerns are being adequately addressed?
- Are there reports from the community of positive and multiple relationships with the Laboratory?
- Is the overall BNL program likely to promote achievement of long-range goals?
- Has the Strategic Communications Plan, community involvement plans, and associated activities accomplished the work listed therein and has this work been done in an effective and efficient manner? Does a comparison of the BNL communications programs with other public and private communications programs reveal that BNL programs meet professional standards for prudent and effective communications?
- To what extent are the target audiences, stakeholders, and customers satisfied with the results of BNL's programs?

The key aspects of the Communications Program at BNL are presented below in the Performance Measures. They focus largely on developing the institutional-level operating infrastructure needed to underpin the entire program. It is expected that each element of the Communications Program at BNL will have associated self-assessment activities in the appropriate organizations (i.e.: CI&PA, Departments, and Divisions). These activities and the resulting findings and conclusions will be made available to the Peer-Review team. It is further expected that there will be regular community and employee surveys and follow-ups, the results of which will also be made available to the Peer Review team (e.g. for the FY99 peer review, the team will review results from comprehensive, Lab-sponsored surveys and the Laboratory's follow-up actions).

2.1 Responsiveness

Enhance the responsiveness and effectiveness of Laboratory communications with internal and external stakeholders.

The weight of this Objective is 35%.

2.1.1 Strategic Communications Plan

The weight of this Measure is 70%.

Discussion: The 1999 Strategic Communications Plan is an overall compilation of the Lab's proposed communications activities for FY99. The review shall focus on the overall effectiveness and quality of the deliverables of the 1999 communications elements of the five major programs listed below.

- BGRR Community Involvement/Communications Program
- RHIC Communications Program
- OU I Community Relations Actions Plan
- OU III Community Relations Actions Plan
- OU V Community Relations Actions Plan

Together, these complex programs detail activities, milestones, meetings, and communications products (brochures, releases, etc.) which contribute to the achievement of enhanced responsiveness.

2.1.2 National Recognition

The weight of this Measure is 10%.

Discussion: The Laboratory shall generate national recognition for major BNL accomplishments during 1999. Candidate initiatives will be agreed to with DOE in quarterly meetings to generate opportunities. Reviewers shall evaluate the selection process, and the efficiency, effectiveness, and completeness of the coverage generated.

2.1.3 Management System

The weight of this Measure is 20%.

The Laboratory will implement a request and response system to handle stakeholder inquiries in a systematic, timely, and open manner. Stakeholder requests sent to BNL will be acknowledged, posted, analyzed for content, assigned to the appropriate Department/Division for response, and a description of the request and required response date will be posted on the tracking system within five working days. Reviewers shall consider the thoroughness, efficiency, timeliness, user-friendliness, and integration of handling these requests with emphasis on the quality and completeness of the responses.

2.2 Stakeholder Involvement

Create opportunities for stakeholder involvement and participation in Laboratory decision-making processes.

The weight of this Objective is 40%.

2.2.1 Lab-wide Community Involvement Process

The weight of this Measure is 60%.

The Laboratory will form a task force with community representatives working together with BNL employees in an interactive process that will design a community involvement process with appropriate Lab-wide involvement in its execution. Reviewers will consider feedback regarding effectiveness and value of the process, the timely delivery and implementation of the process by April 15, 1999, and the impact on stakeholder relations.

2.2.2 Community Advisory Council

The weight of this Measure is 40%.

The Laboratory will fully support the functions of the CAC such as supplying a facilitator, arranging and preparing presentations on a wide range of topics of interest to CAC members, calendar management and meeting organization, response to data requests, correspondence management, etc. in an efficient and timely manner. Feedback from Council membership will be provided to, or independently gathered by, reviewers for consideration in the evaluation.

2.3 Understanding

Achieve a better understanding between internal and external stakeholders.

The weight of this Objective is 15%.

2.3.1 Envoy Program

The weight of this Measure is 40%.

The Laboratory will develop and expand its Envoy Program to include training of BNL employees to gather information in an informal way on stakeholder issues, attitudes, concerns, and expectations of BNL and share this information with BNL decision-makers. Reviewers will evaluate the suitability and effectiveness of the Envoys, and feedback received on their efforts in the community.

2.3.2 Speakers Bureau

The weight of this Measure is 30%.

BNL will send informed and skilled speakers to various civic groups and clubs over the course of a year. Employees will be encouraged to volunteer and will be trained. BNL will publicize the availability of BNL speakers to important audiences. The reviewers shall evaluate the effectiveness of Speakers Bureau recruitment, training and rehearsal, publicity, and the satisfaction of the various audiences to whom presentations were made.

2.3.3 Ambassador Program

The weight of this Measure is 30%.

The Laboratory Ambassador Program will motivate and support employee volunteers for active participation in selected, community-sponsored activities. Reviewers shall evaluate program effectiveness, and shall also consider feedback from the internal and external customers of this program.

2.4 Community Asset

Be recognized as a community asset by expanding community educational programs, providing Laboratory facilities for community use, and seeking partnerships with business and institutions of higher learning on Long Island to promote economic development.

The weight of this Objective is 10%.

2.4.1 On-site Visitors program

The weight of this Measure is 100%.

BNL has a variety of programs designed to attract substantial numbers of participants from the educational, business and related sectors to visit BNL, tour and/or use various facilities, and become comfortable and familiar with the capabilities, operations, and benefits afforded to the community by the Laboratory. Three very different and very large and/or significant programs will be reviewed as surrogates for the quality of the community asset initiative. These are: The Summer Sunday program, the Student Visitor program, and the Science Contests program.

The Summer Sunday program is a public open-house-type program operated on six successive weekends. The FY99 attendance goal is 3,200 persons. The Student Visitor program measures educational usage (students and teachers) over the course of approximately 120 school days. The FY99 attendance goal is 12,000 persons. The Science Contests program measure participation in intense, one-day contests by highly motivated science-oriented teams. The goal for FY99 attendance is 1,500 persons.

In 1999, the Laboratory will also gather feedback for use in evaluating different programs for the future. Reviewers will consider this feedback in evaluating the effectiveness and completeness of these programs.

Critical Outcome 3: Operational Excellence

BNL WILL CONDUCT ALL WORK AND MANAGE ITS FACILITIES WITH DISTINCTION, FULLY INTEGRATED WITH AND SUPPORTIVE OF THE SCIENCE, TECHNOLOGY, AND CLEAN-UP MISSIONS, WHILE BEING FULLY PROTECTIVE OF WORKERS, USERS, THE PUBLIC, AND THE ENVIRONMENT.

The weight of this Outcome is 15% of total.

Objectives and Performance Measures:

3.1 ES&H Performance

Achieve excellence in operational worker safety and health, and environmental protection.

In addition to the Performance Measures under this Objective, which directly relate to operational ES&H performance, accountability for ES&H performance is implemented or reinforced by several other mechanisms. For example, the Performance Measures under Objective 3.2 address management systems that are directly related to implementation of ES&H initiatives, and Performance Measures under Critical Outcome 4 addresses Superfund cleanup projects and waste management. Also meeting ES&H expectations will have significant impacts on program performance evaluations under Critical Outcome 1.

Finally, other clauses in this Contract establish performance expectations and require compliance with a variety of ES&H Standards. Failure under these clauses can have significant contractual impacts independent of the performance ratings. Such impacts vary and may include unilateral alteration of the performance ratings assigned in this attachment.

The weight of this Objective is 20%.

3.1.1 Occupational Safety Measures Composite

The weight of this Measure is 40%.

Scoring for this Measure: Total = .2(3.1.1.1) + .4(3.1.1.2) + .4(3.1.1.3)

3.1.1.1 Total Recordable Case Rate (OSHA Recordables) (RCR)

3.1.1.2 Lost Workday Case Rate (LWCR)

3.1.1.3 Days Away from Work Rate (DAWR)

Approach:

$$\text{RCR per 100 FTEs} = \frac{\text{Number of OSHA reportable injuries/illnesses} \times 200,000}{\text{Total Hours Worked}}$$

$$\text{LWCR per 100 FTEs} = \frac{\text{Number of Lost Workday Cases} \times 200,000}{\text{Total Hours Worked}}$$

$$\text{DAWR} = \frac{\text{Actual Number of Lost Workdays} \times 200,000}{\text{Total Hours Worked}}$$

Performance Rating Levels

	Outstanding	Excellent	Good			Marginal	Unsatisfactory
	<-2.33 SD	<-1.65 to -2.33 SD	-1.65 SD	Historical Mean	+1.65 SD	>+1.65 to +2.33 SD	>+2.33 SD
RCR	<3.24	<3.62	3.62	4.52	5.42	>5.42	>5.8
LWCR	<1.6	<2.0	2.0	3.06	3.82	>3.82	>4.13
DAWR	<<11.27*	<11.27	11.27	43.07	74.87	>74.87	>88

*Note: 2 standard deviations is less than 0.

3.1.2 Environmental Measures Composite

The weight of this Measure is 40%.

Scoring for this Measure:

$$\text{Total} = .17(3.1.2.1) + .33(3.1.2.2) + .17(3.1.2.3) + .33(3.1.2.4)$$

3.1.2.1 SPDES Permit Performance

Using the SPDES DMR results, the raw score for permit exceedances that occurred during the previous calendar year will be determined. The “raw” score is determined using the algorithm shown below.

SPDES Permit Performances Measures Raw Scoring

1. Has a SPDES limit been exceeded?
If no, assign a raw score value of 0.
2. If yes, is the exceedance significant?
If no, assign a raw score value of 1.
3. If yes, has the exceedance occurred in two or more consecutive months?
If no, assign a raw score value of 2.

4. If yes, has the exceedance occurred for more than one consecutive quarter?
If no, assign a raw score value of 2 per month of violation then add 3 to the raw score total.
5. If yes, assign a raw score value of 2 per month of violation then add 10 to the raw score total.

Once the raw score has been determined, for each exceedance episode, determine the Quality Factor that will be used to adjust the raw score. The Quality Factor is used to rate the extent of the exceedance and is determined in accordance with the following table:

Quality Factor	Toxic Pollutants	pH	Non-Toxic Pollutant
1	1.0 – 1.5 x Limit	Within 1 SU of Limit	1.0 – 3 x Limit
3	1.5 – 3 x Limit	Within 1.5 SU of Limit	3 – 5 x Limit
5	3 – 5 x Limit	Within 2 SU of Limit	5 – 10 x Limit
10	5 – 10 x Limit	Greater than 2 SU from Limit	> 10 x Limit
20	> 10 x Limit	N/A	N/A

The Quality Factor is then multiplied by the raw score for each exceedance episode to determine the adjusted score.

Assumptions:

1. Determination of a Significant Exceedance
 Toxic Pollutants: Exceedance > 1.2 x Limit
 Non-Toxic Pollutants: Exceedance > 1.4 x Limit
 pH: > or < 1 SU from Limit
2. Toxic Pollutants include all metallic elements, volatile organic compounds, cyanide, and radiological contaminants.
3. Non-Toxic Pollutants include BOD, TSS, residual chlorine, ammonia nitrates/nitrites, and coliform.

Performance Rating Levels:

Rating Levels	Performance
Outstanding	0
Excellent	1-25
Good	26-45
Marginal	46-75
Unsatisfactory	> 75

3.1.2.2 Significant Releases

Total number of significant spills to the environment and the time necessary to remediate these releases to the satisfaction of NYSDEC will be weighed against 1995 baseline values (i.e.; 3 significant releases).

Assumptions:

1. Spills of petroleum products greater than 42 gallons will be considered significant.
2. Any release of a hazardous material (excluding petroleum products) in quantities which exceed either of the following reportable quantities: RCRA, CERCLA, SARA, NYS Chemical Bulk Storage (6NYCRR Part 597) is considered significant. If this release results in impact to groundwater, then any quantity release is considered significant.
3. Spills completely contained within secondary containment systems will not be considered significant, regardless of quantity spilled.
4. Only spills associated with current operations will be considered under this measure. Spills discovered during remedial investigations, or other operations will not be included in this metric.

Scoring:

Table 1 Significant Environmental Releases Performance Metric			
Rank	Maximum Incident Rate	Remediation Conditions	Score
Outstanding	0 incidents/year	N/A	4
Excellent	1 incident/year	Spill is cleaned up to the satisfaction of the NYSDEC within 30 days of the occurrence and there are no impacts to groundwater	3
Good	2 incidents/year	Spill is cleaned up to the satisfaction of the NYSDEC within 60 days of the occurrence and there are no impacts to groundwater	2
Marginal	3 incidents/year	Spill is cleaned up to the satisfaction of the NYSDEC and there are no impacts to groundwater exceeding MCLs	1
Unsatisfactory	>3 incidents/year or any spill with known impacts to groundwater which exceeds MCLs	None	0

3.1.2.3 Releases of Tritium to the Sewage Treatment Plant (STP outfall)

Outstanding:	Monthly average < 5,000 pCi/L and Daily Composite < 5,000 pCi/L	(4)
Excellent:	Monthly average < 10,000 pCi/L and Daily Composite < 10,000 pCi/L	(3)
Good:	Monthly average < 10,000 pCi/L and Daily Composite < 20,000 pCi/L	(2)
Marginal:	Monthly average < 10,000 pCi/L and Daily Composite = 20,000 pCi/L	(1)
Unsatisfactory:	Monthly average > 10,000 pCi/L and Daily Composite > 20,000 pCi/L	(0)

Rank each months' performance:

Calculate average score and compare annual average score to the following ratings.

Scoring:	4.0	Outstanding
	3.0 - 4.0	Excellent
	2.0 - 3.0	Good
	1.0 - 2.0	Marginal
	< 1.0	Unsatisfactory

3.1.2.4 Meet critical goals and milestones in the EPA Phase II Process Evaluation Project.

Complete high priority process evaluations by 3/23/99 (one year from MOA signing).

- Outstanding - acceptable quality and ahead of schedule
- Excellent - acceptable quality and within milestone
- Good - acceptable quality and minor schedule variance
- Marginal - marginal quality or significant schedule variance
- Unacceptable - marginal quality and significant schedule variance

Minor schedule variance: up to 29 workdays

Significant schedule variance: 30 workdays or more

Marginal quality: requires substantial re-work based on EPA/DOE written comments

3.1.3 Radiological Measures Composite

The weight of this Measure is 20%.

Scoring for this Measure:

$$\text{Total} = .35(3.1.3.1) + .2(3.1.3.2) + .15(3.1.3.3) + .15(3.1.3.4) + .15(3.1.3.5)$$

3.1.3.1 Collective Site Dose

The collective dose (person-rem) is calculated by the summation of all Total Effective Dose Equivalents of all persons monitored during the fiscal year.

Assumptions:

1. The level of research and other BNL activities affects the collective person-rem. The initiation of new facilities/operations, or other significant changes (e.g., number of weeks of high-energy protons) may have a significant affect upon the collective dose. The affect on-site dose of a new activity or change would be evaluated and reflected in the determination of the new target goal.
2. The method to determine the rating levels will be agreed to with DOE prior to the performance period. It will be based on a deviation from the dose goal.
3. During or at the end of the fiscal year, the expected performance level may be revised based upon the actual weeks of AGS high-energy proton running.

Performance Rating Levels:

Rating Level	Performance
Outstanding	90 person-rem
Excellent	105 person-rem
Good	120 person-rem
Marginal	135 person-rem
Unsatisfactory	150 person-rem

3.1.3.2 AGS Normalized Collective Dose per Proton

The collective dose at the AGS divided by the number of protons accelerated in the fiscal year.

Performance Rating Levels:

Rating Level	Performance
Outstanding	5e-20 rem/proton
Excellent	7e-20 rem/proton
Good	1e-19 rem/proton
Marginal	5e-19 rem/proton
Unsatisfactory	1e-18 rem/proton

3.1.3.3 Radioactive Contaminations

A numerical count of the number of incidents (not individuals) of external personnel contamination. This Measure is based upon the ORPS reportable criteria.

Performance Rating Levels:

Rating Level	Performance
Outstanding	5 or less
Excellent	6-10
Good	11-15
Marginal	16-25
Unsatisfactory	25 or greater

3.1.3.4 Internal Uptakes

Numerical count of internal uptakes including tritium in excess of 100 mrem. This is a Measure of work planning and control effectiveness.

Performance Rating Levels:

Rating Level	Performance
Outstanding	0
Excellent	2
Good	4
Marginal	6
Unsatisfactory	8

3.1.3.5 Unplanned Dose

Total number of unplanned doses (as defined below) for the fiscal year.

Description of unplanned dose:

- Any single occupational dose event that exceeds an expected dose by 100 mrem;
- Unplanned doses above ACLs as established for a BNL facility or program.

Baseline: This information will need more development. Special emphasis is being placed on the first year to develop a baseline for future years.

Metric:

- Outstanding - 0
- Excellent - 1
- Good - 2
- Marginal - 3
- Unacceptable - 4

3.2 Management Systems

Establish the organizational and systems-related infrastructure for ES&H and operational management systems. This Objective and its underlying Performance Measures address all of the management system deficiencies identified in the EH 1997 ISME and the EH 1998 Follow-up Review.

The weight of this Objective is 70%.

3.2.1 Key SBMS Infrastructure Milestones

The weight of this Measure is 20%.

Achieve the FY 99 SBMS Project key milestones and maintain or accelerate the critical path to project completion.

Key Milestones:

- Establish SBMS infrastructure enabling the delivery of on-line information by April 15, 1999.
- Deliver first set of Facility Use Agreements on-line to staff (as they are available) June 1, 1999.
- Deliver first set of new Subject Areas, in accordance with the Project Plan, as they are available, by July 1, 1999.
- Deliver the critical set of existing BNL manuals to BNL staff on-line by September 30, 1999.
- Deliver the Management System Descriptions on-line to BNL staff by September 30, 1999.

Scoring:

The FY99 ISMS/SBMS project deliverables largely focus on developing the institutional-level operating infrastructure needed to underpin the ISMS. Meeting the project milestones above will be considered Excellent performance, bettering milestones by 30 days or more will comprise Outstanding performance for that milestone. Missing a milestone by 30 – 60 days will be considered Good performance for that milestone only if the critical path is not affected. Missing a

milestone by more than 60-90 days is Marginal, and by more than 90 days will be considered Unsatisfactory performance for that milestone.

Each milestone will be awarded points as follows based on the accomplishment of that milestone:

Outstanding – 4 points
 Excellent – 3 points
 Good – 2 points
 Marginal – 1 points
 Unsatisfactory – 0 points

The evaluation of the Performance Measure will be the numerical average of the scores of the supporting milestones.

BSA is attempting to achieve a verified ISMS 27 months after taking over BNL contract (and 24 months after developing the ISMS project plan).

The ISMS project plan points toward undergoing ISMS verification in June 2000, leaving 3 months to close any ISMS verification issues before October 2000.

- 3.2.2 Establish key SBMS documents required to support the development of an Integrated Environment, Safety and Health Management System Program Description and an Environmental Management System Manual (program description).

The weight of this Measure is 20%.

- Develop and obtain Laboratory approval for SBMS/ISMS Roll-out Communications Plan, April 1, 1999.
- Develop and obtain Laboratory approval for initial set of SBMS Policies, Standards, and Management System Descriptions by May 31, 1999.
- Issue Draft ISMS Program Description for BNL review and DOE comment by September 30, 1999.
- Meet key milestones of the EMS Project Plan
 - EMS commitment Authorizations by December 31, 1999
 - Institutional EMS program requirements defined by April 1, 1999
 - RHIC Project ISO registered by July 1, 1999
 - Pilot facilities (RD, WMD) independently verified as conforming to ISO 14001 by September 1, 1999

Scoring:

The FY99 ISMS/SBMS project deliverables largely focus on developing the institutional-level operating infrastructure needed to underpin the ISMS. Meeting the project milestones above will be considered Excellent performance, bettering

milestones by 30 days or more will comprise Outstanding performance for that milestone. Missing a milestone by 30 – 60 days will be considered Good performance for that milestone only if the critical path is not affected. Missing a milestone by more than 60-90 days is Marginal, and by more than 90 days will be considered Unsatisfactory performance for that milestone.

Each milestone will be awarded points as follows based on the accomplishment of that milestone:

Outstanding – 4 points
 Excellent – 3 points
 Good – 2 points
 Marginal – 1 points
 Unsatisfactory – 0 points

The evaluation of the Performance Measure will be the numerical average of the scores of the supporting milestones.

3.2.3 Training & Qualifications

A BNL Training and Qualification Management System (TQMS) is currently in the development stage and is scheduled for finalization by 4/30/99. Once finalized, efforts in FY99 will be focused on achieving full system implementation.

The weight of this Measure is 10%.

The composite score for this Measure = $.4(3.2.3.1) + .3(3.2.3.2) + .3(3.2.3.3)$

3.2.3.1 Percentage of Job Training Assessments completed in FY 99

Metric:

Outstanding: $\geq 95\%$
 Excellent: 90% to $< 95\%$
 Good: 85% to $< 90\%$
 Marginal: 80% to $< 85\%$
 Unsatisfactory: $< 80\%$

Assumption: As part of TQMS implementation, the Brookhaven Training Management System will be mandated as the official Lab-wide training record and requirement tracking database for Departments and Divisions and departmental participation in the completion and maintenance of this data will be required. (Maintenance of data entails that required training data for employees will be updated when job functions change, or at minimum, reviewed yearly.)

3.2.3.2 Percentage of required courses completed by employees as of the 9/30/99 (based on assignment to training requirements).

Metric:

Outstanding: $\geq 80\%$

Excellent: 75% to $< 80\%$

Good: 70% to $< 75\%$

Marginal: 65% to $< 70\%$

Unsatisfactory: $< 65\%$

Assumption: 1) Same assumption as in 3.2.3.1. 2) Employees hired before 9/30/95 will continue to be credited for HP-V001, General Employee Training until an Integrated Safety Management Refresher Training course is implemented.

Discussion: This Measure is affected by the fact that as more jobs are assessed and more training requirements are documented in the system, there are more requirements for departments to track and meet (which in turn has impact on training providers). In addition, training requirements will be increased as the Laboratory implements a new Training and Qualifications program in FY99. With this in mind, the overall percentage for a Good rating (the level achieved last year) remains at 70% for FY99.

Upon full implementation of a Training and Qualification Management System on-site, this Measure will be adjusted accordingly.

3.2.3.3 Establish the baseline for Guest/Visitor/User training in the Brookhaven Training Management System (BTMS) as follows:

- Departments/Divisions enter guest, visitor and user data into BTMS, define jobs and complete assessments documenting their training requirements by 9/15/99.
- Training Office, with FSD programming support, provide reports from BTMS documenting baseline for Guest/Visitor/User training by 9/30/99.

Note: This data will provide the baseline for a Performance Measure for FY00. Once this baseline is established and a site-wide guest, visitor, and contractor database is introduced, (which is scheduled for delivery 6/99), this data will be measured in the same manner as 3.2.3.1 and 3.2.3.2.

Metric:

This Measure is a pass/fail measure. Meeting the milestone dates is Outstanding and not meeting the milestone dates is Unsatisfactory.

3.2.4 Integrated Assessment Program (IAP)

The weight of this Measure is 10%.

The composite score for this Measure = $.6(3.2.4.1) + .4(3.2.4.2)$

Achieve the FY 99 IAP key milestones and maintain or accelerate the critical path to program completion.

3.2.4.1 Integrated Assessment Program Milestones

- Final Self Assessment (SA) Plans for Departments and Divisions approved by the Deputy Laboratory Directors by April 30, 1999.
- Develop and issue guidance for Department/Division annual evaluations by April 30, 1999.
- Develop and issue guidance for ALD-level and Laboratory-level roll-up evaluations by May 31, 1999.
- Independent Oversight SA Review Program Plan finalized and published by April 1, 1999.
- Independent Oversight SA Program evaluations start by April 1, 1999
- Critical Outcome related Self-Assessment Evaluations submitted by ALDs by September 30, 1999
- "Self-Assessment" to determine implementation of program

3.2.4.2 DOE satisfaction with BNL implementation of Integrated Assessment Program (based on BHG survey)

Metric Rating for Integrated Assessment Program Measure 3.2.4:

Outstanding - program milestones met and DOE satisfaction level is very good

Excellent - program milestones met and DOE satisfaction level is good

Good - program milestones met and DOE satisfaction level is adequate

Marginal – Program milestones met and DOE satisfaction level is low

Unsatisfactory - program milestones not met and DOE satisfaction level is low

3.2.5 Development of Next Generation Radiological Protection Program

The weight of this Measure is 40%.

The composite score for this Measure = $.4(3.2.5.1) + .6(3.2.5.2)$

3.2.5.1 Achieve the FY 99 Radiation Protection Re-engineering Project key milestones as delineated in the formal project plan, and its predecessor documents, submitted to DOE-BHG in January 1999 and maintain or accelerate the critical path to project completion.

Scoring:

The FY 99 RPRP deliverables largely focus on developing the institutional-level operating infrastructure needed to underpin the project. Meeting the project milestones above will be considered Excellent performance, bettering milestones by 30 days or more will comprise Outstanding performance for that milestone. Missing a milestone by 30 – 60 days will be considered Good performance for that milestone only if the critical path is not affected. Missing a milestone by more than 60-90 days is Marginal, and by more than 90 days will be considered Unsatisfactory performance for that milestone.

Each milestone will be awarded points as follows based on the accomplishment of that milestone:

Outstanding – 4 points
Excellent – 3 points
Good – 2 points
Marginal – 1 points
Unsatisfactory – 0 points

The evaluation of the performance measure will be the numerical average of the scores of the supporting milestones.

3.2.5.2 DOE evaluation of the Radiation Protection Re-engineering Project improvements to the Radiation Protection Program at BNL and the cultural impacts of major BSA initiatives in radiation protection.

Metric:

This evaluation will be performed by DOE-BHG and the evaluation score will be based on a scale of 0 to 4, with 4 being considered "OUTSTANDING".

- 3.3 BNL will be recognized by DOE, Users, and staff as the National Laboratory with the highest quality leaders and the most effective and efficient management.

The weight of this Objective is 10% of total.

3.3.1 Personnel

Create a pool of talented, diverse, empowered, and goal-oriented leaders/managers.

Utilizing Baldrige-type criteria, the Laboratory will conduct a self-assessment of Level 0, I, and II managers in regard to their progress toward the Leadership enhancement in the following areas. DOE-BHG will use this information to

evaluate Laboratory performance.

- Succession Planning
- Diversity of Management
- Design of a Management Training Plan and Hierarchy
- Development of Hiring Criteria for Open Positions

The weight of this Measure is 60%.

Metric:

Outstanding - A sound, systematic approach to each of the above areas that is responsive to the primary purposes of the system; a fact-based improvement process in place in all key areas; more emphasis is placed on improvement than on reaction to problems; no major gaps in deployment, though some areas or work units may be in very early stages of deployment.

Excellent - A sound, systematic approach to each of the above areas that is responsive to the overall purposes of the system; a fact-based improvement process in place in some areas; some emphasis is placed on improvement; no major gaps in deployment, though some areas or work units may be in very early stages of deployment.

Good - Beginning of a systematic approach to the primary purposes of the system; early stages of a transition from reacting to problems to a general improvement orientation; major gaps exist in deployment that would inhibit progress in achieving the primary purposes of the system.

Marginal - Early stages of a transition from reacting to problems to a general improvement orientation; major gaps exist in deployment that would inhibit progress in achieving the primary purposes of the system; results not reported for most areas.

Unsatisfactory - No systematic approach evident; anecdotal information only.

BNL will prepare a self-assessment of the Lab performance on 3.3.1 activities on a scale of 0-4 based on the criteria above (by 7/15). This assessment may include members from BHG (if desired) and the results will be validated and approved by BHG. This will form the basis of the DOE-BHG evaluation of Laboratory performance.

3.3.2 Quality of Worklife

Provide a high quality work environment that permits BNL to attract and retain an excellent workforce.

The weight of this Measure is 40%.

3.3.2.1 Meet critical milestones in the Laboratory-wide Quality of Worklife Action Plan which was prepared in response to employee survey.

The weight of this Sub-measure is 30%.

Quality of Worklife Action Plan milestones:

- Associate/Assistant Laboratory Directors prepare and submit Directorate-specific Action Plans in response to the Employee Survey results by April 1, 1999.
- Convene Laboratory-wide Focus Groups in the areas of Diversity, Employee Involvement, Communications, and Training & Development in an effort to improve the Laboratory's understanding of employee perceptions in these areas. Submit Focus Groups recommendations to the Laboratory-wide Survey Steering Committee by April 1, 1999.
- Laboratory Director review and approval of the Directorate-specific Action Plans and the Focus Groups final recommendations by April 30, 1999.
- Final report (listing with specific actions) from the ALDs to the Survey Steering Committee by July 31, 1999.

Scoring:

The milestone deliverables largely focus on developing the institutional-level operating recommendations to move forward with respect to the survey findings. Meeting the milestones above will be considered Excellent performance, bettering milestones by 30 days or more will comprise Outstanding performance. Missing a milestone by 30 days will be considered Good performance for that milestone only if the critical path is not affected. Missing a milestone by more than 60 days is Marginal, and by more than 90 days will be considered Unsatisfactory performance for that milestone.

Each milestone will be awarded points as follows based on the accomplishment of that milestone:

Outstanding – 4 points
Excellent – 3 points
Good – 2 points
Marginal – 1 points
Unsatisfactory – 0 points

The evaluation of the Performance Measure will be the numerical average of the scores of the supporting milestones.

3.3.2.2 Evaluation of Effectiveness

The weight of this Sub-measure is 70%.

An evaluation of Directorates and Departments/Divisions effectiveness and progress achieved against the approved Action Plans, as measured in their respective Self-Assessment programs, will be done by the Laboratory Director. Following this, DOE-BHG will evaluate the Laboratories performance based on this and other information.

Critical Outcome 4: Environmental Stewardship

BNL WILL BE AN EXEMPLARY ENVIRONMENTAL STEWARD THROUGH SAFE AND AGGRESSIVE ENVIRONMENTAL CLEAN-UP, EFFICIENT WASTE MANAGEMENT, AND EFFECTIVE COMMUNICATION OF THE ENVIRONMENTAL HEALTH OF THE LABORATORY.

The weight of this Outcome is 15% of total.

Objectives and Performance Measures:

4.1 Waste Management and Control

Manage and minimize wastes to achieve site-wide control of regulated wastes and eliminate legacy wastes.

The weight of this Objective is 30%.

4.1.1 Eliminate Waste Stockpiling

The weight of this Measure is 60%.

Measure: To achieve no net stockpiling of waste, the inventories of waste managed at Waste Management Division facilities must not increase. Eliminating or preventing waste stockpiling will be measured according to the following formula:

$$\text{No Stockpiling} = \frac{\text{Amount of Waste Disposed}}{\text{Amount of Waste Received}} \geq 1.0 \text{ (Stockpiling Ratio)}$$

Description: The CYWP describes the EM-30 funding required to dispose of all routine wastes received with the exception of mixed wastes. The disposal of mixed waste will be funded with a BNL accrual account, expected to be enough to dispose of the planned receipts of mixed waste. As a result, the inventories of all types of routine wastes shall not increase by the end of Fiscal Year 1999 (FY99). Using the actual amount of routine waste received compared to the amount of waste sent offsite for disposal a measure of net stockpiling can be developed. Waste amounts received will be reviewed monthly and assessed against planned/actual waste, in order to trend stockpiling.

Baseline Information: Since the CYWP budget is based on averaged historical waste generation information, the CYWP may not equal actuals. Baseline Change Proposals (BCPs) will be submitted to BHG if actual amounts vary from those budgeted, with exceeding amounts reported to the Laboratory Director and

BHG Manager quarterly. Waste Forecasting measures will be developed to baseline FY00 amounts.

A ratio will be calculated for each of the four waste streams (Hazardous, Mixed, Radioactive Solid, and Radioactive Liquid). BCPs will be submitted to maintain ratios within specified boundaries. It is expected that adjustments will be made at least at Mid-Year and in the last Quarter.

Performance Expectation – Related Assumptions: Annual projections of waste Laboratory waste generation. Based on updated information, the CYWP will require baseline adjustment in terms of performance and funding. Funding shortfalls involving waste amount variations, caused by non-routine waste, will either not be generated, be direct funded by generating program, or BCP actions.

Metrics:

Outstanding - Stockpiling Ratio > 1.0 for each of the four waste streams, dispose of 74 cubic meters of legacy low level liquid waste and implement a Forecasting process for each FY00 waste stream.

Excellent - Stockpiling Ratio ≥ 1.0 for each of the four waste streams, dispose of 74 cubic meters of legacy low level liquid waste and implement a Forecasting process for each FY00 waste stream.

Good - Average Stockpiling Ratio of ≥ 1.0 , based on the averaged sum of all four waste stream ratios, with no individual waste stream ratio < 0.9 , and develop a Forecasting process.

Marginal - Stockpiling Ratio of ≥ 0.9 for any three of the four waste streams, and a Forecasting process is developed.

Unsatisfactory - Failure to achieve Stockpiling Ratio of ≥ 0.9 for any two of the waste streams, or a Forecasting process is not developed.

Assumptions:

1. Amounts received will be measured as the Waste Management Division (WMD) receives them. Amounts disposed will be measured according to the original amount as the waste was received. This will discount any changes made to the amount as a result of treatment/packaging, such as labpacking and compaction.
2. Only waste from "routine operations is applicable to goals. Non-routine waste includes construction/demolition wastes, restoration wastes, newly identified wastes, lab clean outs, legacy wastes, spills, PCB waste, lead debris and shielding, and other wastes determined to be "non-routine" (as submitted to DOE-BHG by BSA).
3. Wastes will be defined in specific reporting units (e.g., radioactive solids in cubic feet, radioactive liquids in gallons, hazardous in tons, and mixed wastes in cubic feet).
4. FY99 CYWP is as approved, except for adjustments addressed in BCPs.

5. No net stockpiling means that, for the waste types included in the Metric, the amount of waste received is equal to the amount of waste disposed. Average Stockpiling Ratio (sum of all individual waste stream ratios) of 1.0 equals no net stockpiling.
6. Waste excluded from this Metric are restoration wastes (EM-40), non-routine waste (see above), and other wastes not budgeted in Waste Management Division's FY99 CYWP, unless added through the BCP process.
7. Baseline Change Proposals (BCPs) will be used as formal notifications of changes to CYWP, to identify significant change in baseline assumptions. DOE has agreed to expedite review and approval.

4.1.2 Implement Site-Wide Waste Minimization Program

The weight of this Measure is 25%.

Measure: Continue to provide support for the Waste Minimization/Pollution Prevention Program, meet goals, and develop site-wide program for distributed goals to the BSA organization level. Also, develop and implement mock billings to waste generators for cost of waste handling through disposition.

Description: To enhance waste minimization awareness, a waste mock billing will be implemented for waste generation. To augment the traditional incremental approach to waste minimization, a site-wide waste minimization program will be developed and implemented in FY99. In order to have all waste generating organizations participating in minimization, the new program will include; (1) development of a Laboratory Program for waste minimization, (2) an assessment of waste generation/minimization opportunities, (3) and the implementation of waste minimization program goals across BNL at the Department/Division level. This program will be operational for use in FY00.

Baseline Information: The BSA Pollution Prevention/Waste Minimization Program includes a variety of activities necessary and required to affect minimization. Though this Measure only notes Hazardous, Low Level, and Mixed wastes, the program also includes affirmative procurement, and other waste generating activities. Information necessary to distribute goals to BSA subdivisions will be afforded through the Waste Management Division and the EPA Phase II Process Evaluation Project (PEP). FY00's minimization goals will be distributed and measured on a Department /Division basis. Information necessary for opportunity assessments and general help will also be supported through the Phase II activities and WMR programs.

Performance Expectation – Related Assumptions: This is the first time site-wide (comprehensive to BNL) goals for waste minimization will have been established. While implementation of this program in FY99 will establish policy, goals, and a plan for implementation, the full value of the Waste Minimization Program will not be realized until FY00.

Metrics:

Outstanding - Achieve reduction goals for three of three waste streams and develop program, distribute goals before the end of the 3rd quarter, and provide mock billing.

Excellent - Achieve reduction goals for two of three waste streams and develop program, distribute goals, and provide mock billing.

Good - Achieve reduction goals for two of three waste streams and develop program and distribute goals to Divisions/Departments.

Marginal - Achieve BNL-wide reduction goals in only one waste stream and develop program.

Unsatisfactory - Fail to achieve reduction goals for all three streams and no policy, no distributed goals, and no mock billing.

Assumptions:

1. FY99 DOE W/Min goals are based on FY93 baseline reduction; 20% reduction in Radioactive, 70% reduction in Mixed, and 65% reduction in Hazardous Waste over FY93 volumes.
2. Mock billings are complete with one billing cycle to all Departments/Divisions.
3. Program is implemented with its inclusion in the SBMS.
4. Distributed goals are complete when accepted by BNL Department/Divisions.
5. Only waste from "routine operations" is applicable to goals. Construction/demolition wastes, restoration wastes, newly identified wastes, lab clean outs, legacy wastes, spills, PCB waste, lead debris and shielding, and other wastes determined to be "non-routine" will not be included.
6. Sufficient funds will be available for performance of pollution prevention opportunity assessments and implementation of feasible options, policy development, and mock billing.
7. Baseline Change Proposals (BCPs) will be used to identify significant (more than notable) change in baseline assumptions, with appropriate changes made to these goals.

4.1.3 Legacy Waste Management and Facility Review Follow-up

The weight of this Measure is 15%.

Measure: Completion of remaining high priority Facility Review Project tasks (see EM-40 CYWP), and implementation of a comprehensive plan for the disposition of legacy waste at BNL.

Description: A legacy waste policy that identifies responsibilities, and needs will be developed. The BNL Facility Review Project items from the final report involving legacy waste will be dispositioned. An updated inventory of other

legacy waste at BNL will be described in a comprehensive plan to justify DOE funding and performance goals.

Baseline Information: Historical information concerning legacy wastes will be used to develop a current baseline for waste disposition. Some updating of this historical information will need to be done. Development of this comprehensive plan will clearly differentiate legacy inventories from newly generated waste.

Metrics:

Outstanding - Complete Facility Review Project (from the EM-40 CYWP), submit a comprehensive disposition plan for legacy waste, and submit budget requests for identified waste streams.

Excellent - Complete identified Facility Review Project priority items and submit a comprehensive plan for legacy waste.

Good - Complete Facility Review Project items.

Marginal - Complete >50% of identified Facility Review Project items

Unsatisfactory - Complete <50% of identified Facility Review Project items.

Assumptions:

1. Only DOE-funded Facility Review Project actions are applicable to this measure.
2. The Legacy Waste Management plan submitted to DOE-BHG on February 17, 1999 defines the scope and schedule for the activities covered within this Performance Measure. This plan is fully integrated within the overall program plan for the EM Directorate.
3. Legacy waste in this Metric does not include waste generated in FY99.
4. The legacy inventory will be an accounting, based on best available information and interviews, of materials/waste with no future use and no path to disposal.
5. The comprehensive plan will include a process to differentiate usable material from waste and to disposition material that is determined to be waste.
6. A categorical listing of treatment and disposal options with estimated costs and proposed schedules with prioritization of major waste streams will be developed.

4.2 Environmental Protection and Communication

Understand and communicate past, current, and future environmental impacts and implementation of protective actions. This performance objective is intended to develop wildlife habitat management planning and enhance responsiveness of environmental data and the communication of environmental monitoring results.

The weight of this Objective is 20%.

4.2.1 Groundwater Protection

This Objective involves the development and implementation of Groundwater Protection and Management Plan.

Performance under this measure is: (1) preparation of the Groundwater Protection Management Plan (GPMP) Description; (2) preparation of the Groundwater Protection Implementation and Integration Plan (GPIIP); and (3) implementation of those aspects of the program relevant to FY99.

The weight of this Measure is 70%.

Groundwater Protection milestones:

- Submittal of draft GPMP Description by November 30, 1998.
- Submit GPIIP to DOE BHG for approval by April 5, 1999.
- Implement FY99 GPIIP (FY99 scheduled activities) by September 30, 1999.

Scoring:

Meeting all of the project milestones above (plus those identified in GPIIP set of FY99 scheduled activities) will be considered Excellent performance, bettering milestones by 30 days or more will comprise Outstanding performance for that milestone. Missing a milestone by 30 – 60 days will be considered Good performance for that milestone only if the critical path is not affected. Missing a milestone by more than 60-90 days is Marginal, and by more than 90 days will be considered Unsatisfactory performance for that milestone.

Each milestone will be awarded points as follows based on the accomplishment of that milestone:

Outstanding – 4 points
Excellent – 3 points
Good – 2 points
Marginal – 1 points
Unsatisfactory – 0 points

The evaluation of the performance measure will be the numerical average of the scores of the supporting milestones.

4.2.2 Wildlife Management, Data Reporting, and Completion of Site Environmental Report

Meet critical milestones related to Laboratory wildlife management planning, the responsiveness of Laboratory monitoring results and reports, and the completion of the BNL Annual Site Environmental Report (ASER).

The weight of this Measure is 30%.

Wildlife Management, Data Reporting, and ASER milestones:

- Prepare Annual Summary report for Wildlife Management Plan activities by 9/30/99.
- Include one new habitat management initiative in the Annual Summary Report of the Wildlife Management Plan for FY99.
- CY98 ASER to be available to the public on the World Wide Web (www) by 10/1/99.
- Define set of routine environmental data to be reported to DOE, and data turnaround timeframe (from date of sample collection to date that data are available to DOE), and implementation plan to provide DOE-BHG access to the EMIS environmental database by 4/19/99.
- Prepare Overall Historical Emissions Report as defined in the Draft SOW for Emissions Compilation for 1947 to 1962 (dated August 24, 1998) by 9/30/99.

Scoring:

Meeting all of the project milestones above will be considered Excellent performance, bettering milestones by 30 days or more will comprise Outstanding performance for that milestone. Missing a milestone by 30 – 60 days will be considered Good performance for that milestone only if the critical path is not affected. Missing a milestone by more than 60-90 days is Marginal, and by more than 90 days will be considered Unsatisfactory performance for that milestone.

Each milestone will be awarded points as follows based on the accomplishment of that milestone:

Outstanding – 4 points
Excellent – 3 points
Good – 2 points
Marginal – 1 points
Unsatisfactory – 0 points

The evaluation of the Performance Measure will be the numerical average of the scores of the supporting milestones.

Assumptions:

1. Assumes comment response leading to approval of the GPMP Implementation Plan and Integrated Monitoring Plan within 14 days of submittal to DOE-BHG.
2. Access to the environmental data in the ERD EMIS database will be provided to a DOE point of contact as identified by the BHG Senior Environmental Advisor.

4.3 Remediation Management

Implement environmental clean-up remedies in an effective and efficient manner.

The weight of this Objective is 30%.

4.3.1 Cost Savings

The weight of this Measure is 35%.

Performance Measure: Cost Savings in Current Year Work Plan (CYWP).

Description: The purpose of this Performance Measure is to incentivize cost savings, which when realized, can be used to accelerate additional environmental restoration program scope. The performance of the CYWP will be evaluated using standard project management methods involving earned value calculations for cost.

Baseline Information: The FY1999 CYWP will serve as the baseline against which performance will be evaluated.

Performance Expectations: ERD is expected to identify cost savings through improved planning and management of its work scope. As described below, its success will be assessed at the end of the Fiscal Year based on the amount of cost savings achieved. Proposed measurement method:

$$A = \frac{(\text{FY BCWP} - \text{FY ACWP})}{\text{FY BCWP}} * 100\%$$

+ cost variance % indicates cost underrun
- cost variance % indicates cost overrun

Metrics:

> 10%	Outstanding
5% to <10%	Excellent
0% to <5%	Good
-10% to 0%	Marginal
< -10%	Unsatisfactory

Assumptions:

1. The DOE-BHG Manager has approval authority for the CYWP and any required changes to the CYWP. Change control will be applied to the CYWP. If DOE-BHG directs BNL to apply cost savings to additional scope or accelerated activities, BNL will earn value against those activities.

2. Cost savings will be calculated from the difference between the BCWP and ACWP for the scope authorized and approved; however, any adjustments for CWP errors contained in the CYWP (i.e., double entries) will not be allowed as cost savings.
3. For this Measure, the Actual Cost of Work Performed (ACWP) is defined as the actual expenses reported by BNL in the final monthly report of the fiscal year as approved by DOE-BHG.

4.3.2 Adherence to Schedule

The weight of this Measure is 30%.

Performance Measure: Achievement of significant milestones as Identified in the CYWP.

Description: The purpose of this Measure is to incentivize the achievement of schedule milestones important to the overall Environmental Restoration Program. DOE-BHG and BNL agree on CYWP milestones that are considered important to the Environmental Restoration Program and monitor their achievement.

Baseline Information: The list of selected FY99 milestones to be used to calculate "B" is contained in Attachment A. These milestones are a subset of the milestones in the CYWP.

Performance Expectations: ERD is expected to meet the selected milestones on schedule, per Attachment A. Proposed measurement method:

$$B = \frac{\# \text{ of selected milestones achieved on schedule}}{\text{Total number of selected milestones}}$$

Metrics:

95% of milestones achieved on schedule	Outstanding
85% of milestones achieved on schedule	Excellent
80% of milestones achieved on schedule	Good
75% of milestones achieved on schedule	Marginal
□75% of milestones achieved on schedule	Unsatisfactory

Assumptions:

1. The DOE-BHG Manager has approval authority for the CYWP and any required changes to the CYWP. Change control will be applied to the CYWP. DOE-directed work scope and schedule changes trigger re-estimate of the milestones contained in Attachment A via the change control process.
2. All milestones in the Milestone Log are DOE approved and controlled.
3. BNL may request an extension of schedule milestones with documented justification. DOE BHG will give reasonable consideration to such requests, and has the authority to grant or reject them.

4. BNL may propose substitution or addition of milestone for accelerated activities or scope. BHG will give reasonable consideration to such requests, and has the authority to grant or reject them.

4.3.3 Completing Signed Records of Decision (RODs).

The weight of this Measure is 35%.

Performance Measure: Completing DOE-signed RODs for OU I, III, and V.

Description: The purpose of this Measure is to give increased focus to completing major RODs. This is an all-or-none measure, i.e., a successful outcome is defined as completing all three of the signed RODs during FY99.

Baseline Information: The FY1999 CYWP will serve as the baseline against which performance will be evaluated.

Performance Expectations: ERD is expected to complete all three of the DOE-signed RODs during FY99. Proposed measurement method:

$$C = \frac{(\# \text{ of RODs signed})}{\# \text{ of RODs}} * 100\%$$

where # of RODs = 3 (i.e., OU I, III and V)

Metrics:

100%	Outstanding
< 100%	Unsatisfactory

Assumptions:

1. A signed ROD is defined as the ROD with responsiveness summary, as signed by DOE (i.e., prior to signature by the regulators).
2. BNL may request extension of schedule milestones with documented justification. DOE BHG will give reasonable consideration to such requests, and has the authority to grant or reject them.

4.4 BGRR

Ensure stabilization of legacy facilities to prevent potential impacts to workers, neighbors, and the environment.

The weight of this Objective is 20%.

4.4.1 BGRR Plan Execution

The weight of this Measure is 100%.

Measure: Performance of EM-Approved BGRR Program Plan.

Description: Completion of key milestones.

Baseline Information: Baseline information for the BGRR program is limited. Activities conducted to date have been in response to stabilization (water intrusion) and establishing an authorization basis.

Performance Expectation – Related Assumptions: A functional and responsive baseline change control process is critical to the success of this measure.

Metrics:

TBD following DOE approval of the BGRR Program Plan.

Excellence Indicators for FY ES&H Off-ramp

As described in Article 12A, Off-ramp, the Contractor will be evaluated by DOE thirty-three months after the effective date in accordance with the following measures.

Measure 1: Average Number of Facility Walk-throughs Per Senior Manager Per Year

Objective: Accountability of managers for issue identification and resolution creating correlation between number of senior management walk-throughs and (1) improved awareness of ES&H conditions; (2) expanded training of senior managers in ES&H self-audit techniques; and (3) increased management involvement in assuring timely and appropriate remediation.

Requirements Basis: None

Data Source: Contractor records

Definitions: For the purposes of this indicator, a “senior manager” is the Laboratory, Deputy Director, Assistant and Associate Directors, Division Directors, and Facility or Project Managers. A walk-through is any facility or activity visit or tour made by a senior manager with the specific intent of monitoring or improving safety and/or quality performance.

Excellence Indicators:

FY99:	8/YEAR/SENIOR MANAGER AVERAGE
FY00:	12/YEAR/SENIOR MANAGER AVERAGE and NOT LESS THAN 6 PER MANAGER

Measure 2: Lost Workday Case Rate

Objective: Determine the overall effectiveness of DOE worker Occupational Safety and Health Programs

Requirement Basis: DOE O 231.1

Data Source: CAIRS

Definitions: Number of lost workday cases in which the employee suffered a work related injury or illness that involves days away from work or days of restricted work activity, or both (Per 200,000 hours worked)

Excellence Indicators:

FY99: BELOW DOE AVERAGE

FY00: BELOW DOE RESEARCH LABORATORY AVERAGE

Measure 3: Environmental Index

Objective:	Reduction in site emissions by complying with all applicable environmental regulations and plans, implementing pollution prevention projects, conducting process waste assessments, and improving the way hazardous materials are handled.
Requirements Basis:	DOE O 232.1; Secretarial policy letter
Data Sources:	Site Environmental Report, NESHAPs Air Emissions Report, SARA Title III Reports, Storage Tank Inventory, Report on Waste Generation and Minimization, IAG Administrative Record.
Definition:	Index = sum of normalized weighted environmental emissions attributes (i.e., $\text{Sum}(\text{RV} \times \text{NF} \times \text{WF})$, where RV = raw value; NF = normalization factor; and WF = weighting factor.) Normalization factors established using FY95 data (see Environmental Index Baseline, attached) such that FY95 Environmental Index = 100.
Notes:	This measure was the 2X indicator for ES&H in the FY96 BHG Business Plan. The measure is a composite of important environmental attributes at BNL, which represent both controlled and uncontrolled emissions. Divisor assures that HFBR shutdown does not account for reduction.
Excellence Indicators:	FY99: 25% REDUCTION FROM FY95 INDEX FY00: 50% REDUCTION FROM FY95 INDEX

ENVIRONMENTAL INDEX – BASELINE

Environmental Attribute	1995 Raw Value	Normalization Factor	Weighting Factor	Index
		(1/Raw Value)		$(RV \times NF \times WF)$
1995 Max. Offsite Eff. Dose Equi. (mrem)	0.38	2.63E+00	10	10
Tritium to Peconic River (mCi)	2713	3.69E-04	8	8
Tritium to Air Emissions (Ci)	104.8	9.54E-03	9	9
1995 Hazardous Waste Disposed	79	1.27E-02	6	6
1995 Radioactive Waste Disposed	15745	6.35E-05	6	6
1995 Mixed Waste Disposed	106	9.43E-03	6	6
1995 SARA Title III Emissions (lbs)	2484	4.03E-04	6	6
SPDES permit Excursions (#)	11	9.09E-02	8	8
Sub-standard Storage Tanks (# est.)	15	6.67E-02	10	10
Significant Spills (#>50 gal.)	3	3.33E-01	9	9
Restoration Remedies Selected (1/#)	0.2	5.00E+00	10	10
Paper Recycled (1/tons)	0.003627	2.76E+02	6	6
Solid (non-hazardous) Waste Generated (tons)	694	1.44E-03	6	6
			100	100
Operations Factor				1
Environmental Index				100
Data Source:				
1995 Site Environmental Report				
1995 Site Wide Air Emissions Report				
1995 SARA Title III Reports				
Storage Tank Inventory				
1995 Rpt. On Waste Gen. And Minimization				
IAG Administrative Record (RODs and Action Memoranda)				